

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Positive and negative reasons for sickness presenteeism in Norway and Sweden
AUTHORS	Johansen, Vegard; Aronsson, Gunnar; Marklund, Staffan

VERSION 1 - REVIEW

REVIEWER	Elena Ronda Public Health Section. University of Alicante. Centre for research in occupational health (CISAL) Spain
REVIEW RETURNED	11-Oct-2013

GENERAL COMMENTS	<p>The manuscript investigates the positive and negative reasons for sickness presenteeism in Norway and Sweden. It is very growing interesting topic so far hardly at all investigated. Their content, methodology, results and conclusions, are interesting and allow me to recommend their publication.</p> <p>It is edited of a quite clear form, the writing especially straightforward and its reading is very understandable, although minor language revisions might be needed.</p> <p>In all ways, I include a series of suggestions that should intend to the authors and that in my opinion they would increase the quality of the same one.</p> <p>Comments</p> <p>Introduction</p> <p>1) Second paragraph: it is not clear, the compensation system in Sweden. What does exactly mean that "the employees themselves pay for the starting day". Isn't a public benefit?</p> <p>2) Page 5: second paragraph, third cause: what does "having a health problem" mean. This reason needs clarification</p> <p>Methods</p> <p>3) It should be described the source of the data for the samples.</p> <p>4) The authors should explain how has been the eleven reasons selected. Is there an option of other reasons? (Last sentence first paragraph results).</p> <p>5) Ethnic background should be replaced by migratory status since reference 25 is related to this issue and it is also what authors consider in the manuscript.</p> <p>Results</p>
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	<p>6) Second sentence 37% wouldn't be two episodes? Since 56% would be at least one.</p> <p>Discussion</p> <p>7) The discussion is very clear, only the last paragraph in my opinion needs to be reconsidered. The authors have found that the country is an important variable that explain differences related to the economic consideration in SP. This is an important and new finding. It is, however, important to be clear on the fact that there could be more reasons and not only social security system that could be explained these differences. Also it is not clear why they consider that the positive reasons for SP in well-educated individuals and managerial positions could be unproblematic.</p> <p>Tables</p> <p>Both table 1 and 2 titles must be self-explicative and more specific of the content of the table. Also avoid the use of acronyms.</p> <ul style="list-style-type: none"> • Table 1 must include the number of participants in each survey to understand the percentages. • Table 2 should point why these reasons have been selected and the names, in a way must coincide with table 1. More than work factors the authors should refer to employment factors. <p>Minor changes</p> <p>Abstract: response rate 33, % is missing Article summary: recall bias is repeated (it must be response bias) Introduction: SA (second paragraph) parenthesis are missing First sentence, results sections (two commas)</p>
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REVIEWER	<p>Ana M Garcia Dept. Preventive Medicine and Public Health University of Valencia SPAIN</p>
REVIEW RETURNED	31-Oct-2013

GENERAL COMMENTS	<p>The paper deals with an important issue in the field of occupational health and to the best of my knowledge it provides interesting novel results. Some points in the manuscript could be further clarified.</p> <ul style="list-style-type: none"> - Abstract. The reader will appreciate more information on the reference population for the survey and on the methods of conducting it. Primary outcome measure: the paper barely provides information on the "distribution" of SP, but mostly on the "causes" (as selected from a closed list). To my view, the data reported here comparing some characteristics of the sample with the "population" are uncertain and can be avoided in the abstract. The definition (including time window) of SP in the questionnaire should be stated. A major first result should be the prevalence of SP (as previously defined) in the sample. In fact, the first stated conclusion will be more accurately placed as the first result, reporting the exact percentage of SP in the sample. I
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	<p>recommend including some of the aOR and 95%CI values in the reported results. Some comments on the potential bias due to the very low response rate could be included, referring to caution in the interpretation of the reported results.</p> <ul style="list-style-type: none"> - Strengths and limitations. Revise last line, “recall bias” repeated twice. - Introduction. In the first paragraph the sentences from “Using survey data...” to “SP in Norway and Sweden” are displaced. This information belongs to Methods or to the end of the Introduction, when the objective of the study should be clearly presented. - Introduction. The second paragraph is also misplaced: this information belongs to Discussion, once the reader has gone through the Methods and Results sections of the paper. - Methods. Much more information is needed about the “survey” quoted in the first paragraph: who carried out this survey? With what purpose? How was the survey presented to the participants? Information on ethics considerations (also in this first paragraph) will be better placed by the end of Methods section. - Methods. Much more information on the sampling method and on the reference population is required too. How the reference population was defined, beside of being “workers” (employed, self-employed? active, occupied?) aged 20-60? In other words, who were considered as “potential participants”? How was “listed” the reference population, what was the source? This listing is needed in order to perform a random sampling process. How was this random selection performed? The exact numbers (1600) are somehow shocking... was there any previous estimation of sample size? I’m not sure on the convenience of weighting the samples for Norwegian/ Swedish participants having the same influence... anyway, the process followed up for this weighting should be further explained. - Methods. On the questionnaire: it should be clearly stated that the questionnaire was posted. It seems that the researchers had access to the postal addresses of the potential participants; what was the source for this information, how reliable is it (updated?). Could somehow the quality of the available information on postal address be related to the low response rate, do the researchers have any count on returned letters or non-located recipients?, What cautions had the researchers to avoid the respondents being suspicious about the reporting of personal and
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	<p>occupational data on the survey? The full contents of the questionnaire are not clearly presented; a general overview of it (60 questions are mentioned, but information is mostly given for the SP related questions: what where the remaining contents of the questionnaire???), time required to be fulfilled, and mostly: design of the questionnaire: was it designed <i>ad hoc</i> for this research? Or for any other purpose? Was it validated or piloted in some way? Is there any opportunity for the interested reader to access the full questionnaire?</p> <ul style="list-style-type: none"> - Methods. The comparison between the participants and the “potential participants” is uncertain. What is the origin of the data describing the “potential participants”? What regional and time references have this data? What source? Any bibliographical reference? I would prefer to see this comparison (further explained) in the Discussion, along with some thoughts about the consequences or meaning of similarities and disparities between participants and potential participants regarding the results. In the list of independent variables the “reference category” is not always identified. The correspondence between local currencies (NOK/SEK) and Euros could be valuable. - Methods. I don’t like very much the percentages accompanying the description of the independent variables, I think this information belongs to Results. The general reader will appreciate the range of Nagelkerke R2 index: between 0 and 1, 1 meaning variation fully explained? - Results. Some unidentified values (0.30, 0.14) are quoted: the involved indicator (Nagelkerke R2?) should be identified together with this numbers. - Discussion. Some messages are repeated. In particular, second paragraph: “...Former studies on SP have focused on “negative” reasons, but this study ...” and later, in the same paragraph: “...Some previous studies on SP are mainly focused on negative presence factors...”; also, last paragraph: “the social security system, particularly in Sweden, is unable to cover all individuals with a health problem in an equal way” (a point already discussed previously) - Discussion. Some references are needed when it’s stated “...several studies have found that frequent use of SP may lead to future health problems...” - Discussion. More comments on the potential effects of non-response as a potential source of bias in the reported results should be included: have the researchers any ideas around it? Is it possible that workers having experienced SP could
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	<p>be represented in a higher proportion in this sample? Could then the proportion of workers experiencing SP be overestimated in this survey as compared to the situation in the reference population? Additional information on the definition of the base population for the study, on the aims of the study as it was presented to the potential participants, and on the comparison between participants and non-participants (regarding more personal and occupational variables) will help to give these explanations. Besides, to my view, even if the prevalence of SP could be overestimated, the results regarding the distribution of SP reasons could still be valid with this data.</p> <p>- Tables. To my view the reader will prefer to see proper labels in the head of the columns, better than in the title of the table. I would prefer also more informative table titles (including the scope of the study: population, place, time period). Exact p values should be provided in all the statistical contrasts presented in Table 1 (and the source of these p values as well: from Chi-square tests?). All the abbreviations used in the tables should be defined in table foot notes. Absolute frequencies (n) for the different categories will help in Table 2. Also, it could be also interesting to see the results of the analysis by age in categories, besides the analysis of age as a continuous variable (Table 2), for example considering 3-4 groups of age (percentiles? in 10 years categories?). It's not clear to me if OR presented in Table 2 are crude or adjusted OR, it should be clearly stated. If aOR are reported, the adjustment variables included in each model should be presented in foot notes.</p>
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VERSION 1 – AUTHOR RESPONSE

Structured abstract

1. Ronda points out that “%” is missing. The text now says:

“The response rate was 33%.”

2. Garcia comments that we should point out that the paper is about causes for SP. We agree:

“The paper informs about the distribution of reasons for SP in Norway and Sweden, and the respondents selected these reasons from a closed list.”

3. Garcia finds the comparison of the net sample and the population uncertain and suggests avoiding it in the abstract. The comparison is based on official statistics from Statistics Norway and Statistics Sweden so it should not be uncertain, but we agree that we do not need it in the abstract.

4. Garcia wants more information on the reference population for the survey and on the methods of conducting it. This is done:

“The selection of the gross samples were done by companies having complete and updated databases of the Norwegian population and the Swedish population. They used simple random

sampling from the population between 20 to 60 years of age. The response rates were 33% in both countries.”

5. Garcia wants us to state the definition of SP, and the time window in the questionnaire. This is done

“This paper investigates various reasons for sickness presenteeism (SP), i.e. going to work despite illness.”

“2500 workers responded to questions about SP during the last 12 months.”

6. Garcia comments that the first result should be the prevalence of SP, and this should not be part of the conclusion. We agree:

“56% of the Norwegian and Swedish respondents reported SP”

7. Garcia suggests to comment on the low response rate. We have followed her advice:

“The response rate is low and results must be interpreted with caution.”

8. Garcia recommends including some of the OR and 95%CI values in the reported results. We have followed her advice:

“A lower proportion of Norwegians state that they cannot afford taking sick leave (OR = 0.16 (CI = 0.10-0.22)), whilst a higher proportion of Norwegians refer to that they enjoy their work (OR = 1.64 (CI = 1.28-2.09)). Women and young workers more often report that they do not want to burden their colleagues. Managers (OR = 2.19 (CI = 1.67-2.86)), highly educated persons and the self-employed more often report that they are indispensable.”

Strengths and Limitations

9. Ronda and Garcia point out that “recall bias” is repeated. This is fixed.

Introduction

10. Ronda asks us to clarify what “having a health problem” means. This is done:

“A Swedish study identifies different types of factors related to SP, such as reporting variable/rather poor/poor health status (self-assessment),...”

11. Garcia asks us to move part of the first paragraph to the end of the Introduction. This is done:

“Using data from a cross-country study, this paper describes the distribution of twelve reasons for SP in Norway and Sweden. The research question asked is: What are the main reported reasons for SP in Norway and Sweden?”

Methods

12. The editor points out that the justification for using a postal survey belongs in the methods.

“We carried out a postal survey since this was the only financially viable option for our cross-country study.”

13. Garcia asks us to provide information on who carried out the survey and with what purpose. This is presented like this:

“The purpose was to study “a normal population`s” attitudes to and experiences with SA and SP. We carried out a postal survey since this was the only financially viable option for our cross-country study. The Norwegian survey was administered by Eastern Norway Research Institute and the Swedish survey was administered by ScandInfo. The data collection was part of a research project called “Social factors contributing to sickness absence” (SOFAC). Researchers from Eastern Norway Research Institute, Lillehammer University College and Stockholm University collaborate in SOFAC, and the project is funded by the Research Council of Norway.”

14. Ronda asks us to describe the source of the data for the samples. Garcia also wants the source for the list, as well as more information on the sampling method and characteristics of the reference population. This is presented like this:

"In both countries the process of selecting the gross sample was simple random sampling from the population between 20 to 60 years of age. The potential participants included people working full-time and part-time, on parental leave and on sick leave, as well as unemployed people, students and receivers of disability pension. The selection of the gross sample in Norway was done by Bisnode Match It, and they have a complete and updated database of the Norwegian population. The selection of the gross sample in Sweden was done by ScandInfo, and they have a complete and updated database of the Swedish population."

15. The editor asks for the number of people that were approached, whilst Garcia wants to have the exact number of the sample size. The text now says:

"4900 Norwegians were asked to participate in the survey and 1594 responded. 3800 Swedes were asked to participate and 1249 responded."

16. Garcia asks how the survey was presented to the participants, and how we tried avoid the respondents being suspicious about the reporting of data on the survey. This is presented in this way:

"The information letter stated that the aim of the survey was to map experiences and attitudes to sick leave among representative samples in Norway and Sweden. It stated that the study was approved by the Data Protection Official for Research (Norwegian Social Science Data Services), and that all respondents were anonymous to the research team. Direct personal data was not collected, and none of the respondents could be identified through a combination of background information since we asked few background variables. Finally, the information letter included information about e-mail and telephone to the researchers in the project."

17. Garcia asks for more information about the questionnaire (other topics than SP, time to fill out the questionnaire, the design, the pilot study, access to the full questionnaire). This is answered in this paragraph:

"The questionnaire was designed particularly for the SOFAC-project. In the pilot study in Norway, respondents used about 15 minutes to fill out the questionnaire. The questionnaire included questions on a few background variables, about the employment situation, experiences with sick leave, experiences with SP, attitudes to sick leave in general, and attitudes to sick leave due to psychological illness and skeletal-muscular disease. The full questionnaire is available upon request to the research team."

18. Garcia asks about the source and references for the comparison between the net sample and the population. The sources are Statistics Norway and Statistics Sweden.

"Statistics Norway and Statistics Sweden are sources of factual information about the populations in Norway and Sweden, and distributions of sex, age, immigration, education level, county, centrality/peripherality, municipality size are presented annually and can be accessed online.^{20 21}

19. Garcia asks about the weighting of the samples. This is explained:

"The data were weighed according to age and gender in order to remedy the underrepresentation of young workers and men. The data are weighed according to country of origin, so the Norwegian and Swedish samples have the same influence."

20. Ronda asks us to explain how the eleven reasons were selected and if we had an option of other reasons. This is answered:

"The response options were chosen by the research team and based on former studies about SP and SA."

"Option 12: There were other reasons that I went to work"

21. Garcia wants us to present the range for Nagelkerke R². This is done:

"Nagelkerke R² is an often used version of the coefficient for determination for logistic regression. Nagelkerke R² ranges from 0 to 1, and it provides a gauge of the substantive significance of the model.²²

22. Ronda states that we should change "ethnic background" to "migratory status". This is done.

23. Garcia comments that in the list of independent variables the "reference category" is not always identified. This is fixed. She also wants to see the correspondence between local currencies (NOK/SEK) and Euros. This is presented:

"300000 NOK is about 36000 Euros and 300000 SEK is about 33000 Euros."

24. Garcia asks us to place information on ethical considerations at the end of the methods section. This is done:

"The research was done in accordance with the rules set by the committees for medical research ethics in Norway and Sweden, was approved by the Norwegian Social Science Data Services, and conforms to the principles embodied in the Declaration of Helsinki."

Results

25. The editor comments that the response rate should be covered in the results section.

"The response rate was 33% in both countries."

26. Ronda asks why the four reasons for logistic regression were selected. The reply is this:

"We have chosen to investigate which factors influence the four most often reported reasons for SP, as seen in table 1."

27. Garcia comments that Nagelkerke R² should be identified together with the numbers about model fit. We agree:

"(Nagelke R² = 0.30)"

"(Nagelke R² = 0.14)"

"(Nagelkerke R² = 0.07 and 0.06 respectively)"

Discussion

28. The editor comments that we must move the discussion about the validity of the response rate to the Discussion. Garcia suggests that we should consider if the quality of postal addresses were related to the low response rate. We have followed their advice..

"Another concern is the low response rate, which is similar to other level of living surveys."

"Response rates tend to be very low for postal questionnaires.²⁹ To increase the response rate, the length of the questionnaire was kept quite short (4 pages and 60 questions), a postal follow up including questionnaire was sent, the return envelope was pre-paid, and the information letter stressed the benefits of the study to society. The quality of postal addresses provided by Bisnode Match It and Scandinfo were good, since less than 300 letters were returned (3% of the gross sample). In retrospect, various strategies could have been considered to increase the response rate and improve the quality of our study: monetary or non-monetary incentives, personalised questionnaires and letters, contacting participants before sending the questionnaires, and more than one follow up.²⁹

29. Garcia comments that we should move the second paragraph in the introduction (about the compensation systems) to the Discussion. Ronda asks us to clarify the compensation system in Sweden. We agree with both requests:

"We expected to find differences with regard to the reasons for SP in Norway and Sweden since the

level of SA is presently much higher in Norway compared to Sweden²⁵ and there are profound differences between the two countries in attitudes towards SA.²⁶ Moreover, sickness benefits in Norway are more generous than Sweden: a sick-listed person in Norway receives full compensation of the loss of income from the first day for a maximum of 364 days, whereas in Sweden the first day of SA is not compensated and from the second day the employees receive 80% compensation of the loss of income for a maximum of 364 days within a frame of 450 days.^{27 28}

30. Ronda comments that we must be clear that there could be other reasons for cross-country differences than the social security system. We agree:

“Still, it is important to be clear that other reasons than the social security system could matter for these differences.”

31. Ronda questions our statement that positive reasons are unproblematic. On the same matter, Garcia asks for references to the correlation between frequent use of SP and future health problems. We have clarified our position and provide references:

“When respondents report that they practice SP because they enjoy their work, this may generally be seen as unproblematic. However, several studies have found that frequent use of SP may lead to future health problems^{4 12 13 14} and employers and occupational health services may therefore regard this as an early indicator of reduced productivity and later SA.”

32. Garcia argues that some messages are repeated. In the new Discussion we only mention the point about “negative reasons” one time.

33. Garcia suggests that we discuss the potential effects of non-response and the possibility of over-reporting SP (workers having experienced SP could be represented in a higher proportion in this sample). This is done in this paragraph.

“It is difficult to make conclusions about the accuracy of our survey, and the responses to questions on SP might have been influenced by recall bias. Another issue of concern is response bias, and some studies have shown that employees tend to under-report their SA.³⁰ It could also be that workers having experienced SP are represented in a higher proportion in the sample, and this could result in an overestimation of SP as compared to the situation in the population. It should be noted that the distribution of SP is in accordance with prior studies of SP at the national level.^{1 8 10} It could be that data on SP suffer from under-reporting or over-reporting, but this study did not control for this possibility.”

Tables

34. Garcia points out that we should present exact p-values in in table 1. This is done. Since data are weighted, we disagree with Ronda that we need to include the number of participants in Norway and Sweden in table 1. We include the total number of respondent having experienced SP (N = 1408), and all of them have reported reasons for SP.

35. Ronda comments that we should provide the same names of reasons in table 2 that we do in table 1. Garcia wants to see more informative table titles, proper labels in the head of columns, and she also wants to know whether we present crude or adjusted OR. We agree with both reviewers, and we have followed up on their comments.

36. Garcia argues that we should move percentages of the independent variables to the results. We agree and have provided information about percentages in table 2.

37. Garcia wants us to show the absolute frequencies for each independent variable that is included in the regression analysis. This is also done. Since there are some missing data (some respondents have not answered all questions/independent variables), the total number of respondents in the

logistic regression analyses are 1270.

38. Garcia asks about a new analysis were we include age categories in addition to age as a continuous scale. We agree that this could be of interest, but have decided not to do this since age is not a very important factor in the models, and this would require much work (new analyses, new tables, new reporting of findings etc...).

VERSION 2 – REVIEW

REVIEWER	Ana M Garcia University of Valencia, SPAIN
REVIEW RETURNED	18-Dec-2013

GENERAL COMMENTS	To my view the text has been changed and improved according to most of the reviewers' comments, but also the authors state that they have taken into account some comments that in fact they have not really considered, as no related modification in the text has been introduced. In the attached pdf (pages 1-19) I include notes and commentaries about remaining problems in the paper.
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- The reviewer also provided a marked copy with additional comments which is available upon request to Publisher.